(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date 24 February 2005 (24.02.2005)

PCT

(10) International Publication Number WO 2005/017477 A1

(51) International Patent Classification7: 1/08, G02B 6/24, 6/24, 1/00

G01K 11/32,

(21) International Application Number:

PCT/US2003/037303

(22) International Filing Date:

21 November 2003 (21.11.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/428,099

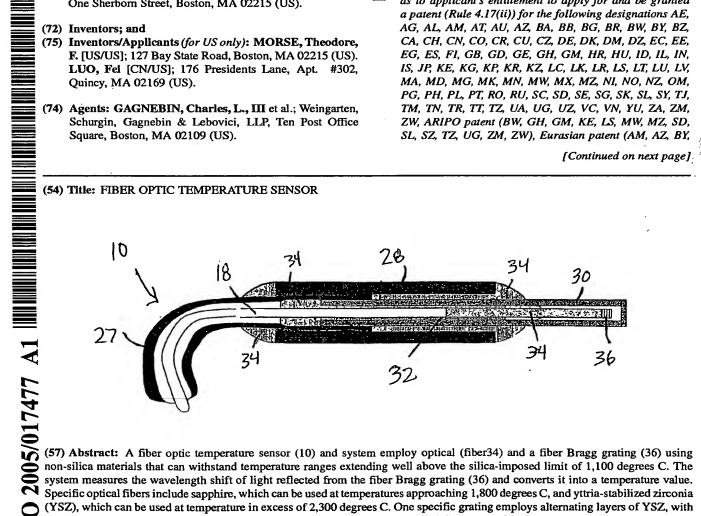
21 November 2002 (21.11.2002)

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- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ,



Specific optical fibers include sapphire, which can be used at temperatures approaching 1,800 degrees C, and yttria-stabilized zirconia (YSZ), which can be used at temperature in excess of 2,300 degrees C. One specific grating employs alternating layers of YSZ, with the percentage of yttria varying in the alternating layers to achieve the desired difference of refractive index, and another grating employs alternating layers of alumina and zirconia.